

Your Printer Setup String Goes Here

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2

TIME 13:02:27
TITLE PAGE 1

HANFORD: ER PROGRAM
REMEDIATION - IRM IMPLEMENTATION
1904-NB Sewage Lift Station #2
RETENTION BASIN MODEL
REV. 2a (Modified for D&D B/L)

Designed By: BHI - Estimating Group
Estimated By: BHI - Estimating Group

Prepared By: BHI - ESTIMATING

Preparation Date: 03/30/98
Effective Date of Pricing: 03/30/98

Sales Tax: 8.00%

This report is not copyrighted, but the information
contained herein is For Official Use Only.

M C A C E S F O R W I N D O W S E D I T I O N
Composer GOLD Software Copyright (c) 1985-1995
by Building Systems Design, Inc.
Release 5.30C

This is an RA model that has been revised for use on the D&D baseline. The only thing changed was the removal of subcontractor overhead. Training was also removed since it is not considered in the rest of the D&D models. It should be noted that the equipment in this model is not from the BHI Equipment pool which is the equipment used by the D&D program since it is ERC work. It was not changed because of budget constraints.

This is one of the Remedial Action models that was revised around January of 1998. It was the first of the RA models to be updated/modified/corrected and was intended to be the basis model for use in the development of the remaining remedial action MCACES models.

Currently in this Model:

1. Direct Distributable Rate = 18.92%
2. General & Administrative = 4.04%
3. Subcontractor Overhead and Profit Rates are as follows:
 - a. Field Overhead = 10%
 - b. Home Office Overhead = 3%
 - c. Profit = 7%
 - d. Bond = Calculated within each model
 - e. B&O Tax = 0.47%
3. Contingency Rate = 15.7% (if desired)
4. The labor database used is located @ E:\readwrit\1999base\99tables\BHF98A, The ERC wages are dated 8/18/97 and the HSSA rates are dated 11/14/97.
5. The equipment database used is located @ E:\readwrit\1999base\99tables\NAT97C entitled "Eq. Rates EP 1110-1-8, VIII, Sep97+B"

Special Note #1

To satisfy procedural requirements items 1,2, 4 & 5 are subject to update before running model and issuing final results.

Special Note #2

Project approval of model applies to model structure/productivity/work approach/methodology/material pricing/unit pricing/resources, etc. excluding items in special note #1 above.

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 1

	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
<hr/>					
.	HANFORD: ER PROGRAM				
<hr/>					
HANFORD: ER PROGRAM					
<hr/>					
	PRODUCTIVITY	18.0000 LS /			
	DURATION	0.0556			
A1	0 Non-Contaminated Soil				
	Non-Contaminated Soil	N	10450.0000		BCF
A1	0 Non-Contaminated Soil				10450.0000 BCF
<hr/>					
A3	0 Contaminated Soil				
	Contaminated Soil	N	550.0000		BCF
A3	0 Contaminated Soil				550.0000 BCF
<hr/>					
A4	0 Demolition Waste				
	Demolition Waste	N	91.0000		
A4	0 Demolition Waste				91.0000 BCF
<hr/>					
A5	0 Top Excavation Length				
	Top Excavation Length	N	20.0000		LF
A5	0 Top Excavation Length				20.0000 LF
<hr/>					
A6	0 Top Excavation Width				
	Top Excavation Width	N	10.0000		LF
A6	0 Top Excavation Width				10.0000 LF
<hr/>					
A7	0 Bottom Area				
	Bottom Area	N	200.0000		SF
A7	0 Bottom Area				200.0000 SF
<hr/>					
A8	0 GW Protection Smpls (S3,M21,L60)				
	GW Protection Smpls (S3,M21,L60)	N	0.0000		

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 2

	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
A8	0 GW Protection Smpls (S3,M21,L60)				0.0000 EA
A9	0 Depth of Excavation				
	DEPTH OF EXCAVATION	N	10.0000		LF
A9	0 Depth of Excavation				10.0000 LF
ABURDN0	Non Contaminated Soil - Reduced				
	Non-Contaminated Soil	W A1	0 (	10450.0000 / Divide by	BCF
	Convert to Cubic Yards	N		27.0000 * Multiply by	CF/CY
	Swell Factor	N		1.1500) * Multiply by	%
		N		1.0000	
ABURDN0	Non Contaminated Soil - Reduced				445.0926 LCY
ACSOILO	Contaminated Soil				
	Contaminated Soil	W A3	0 (	550.0000 / Divide by	BCF
	Convert to Cubic Yards	N		27.0000 * Multiply by	CF/CY
	Swell Factor	N		1.1500) M (R) Multiply by	
		N		1.0000	
ACSOILO	Contaminated Soil				23.0000 LCY
ADISBRO	Hauling Distance for Borrow				
	Hauling Distance for Borrow	N	15.0000		MILE
ADISBRO	Hauling Distance for Borrow				15.0000 MILE
ADWAST0	Demolition Waste				
	Demolition Waste	W A4	0 (	91.0000 / Divide by	BCF
	Convert to Cubic Yds.	N		27.0000) M (R) Multiply by	BCF/BCY
	Swell	N		1.6000	
ADWAST0	Demolition Waste				5.0000 LCY
AREAST0	Site Area				
	Top Excavation Length	N	(	0.0000 N None	
		W A5	0 (	20.0000 + Add to	LF

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 3

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
Add 30 lf to each side	N	60.0000)	*	Multiply by	LF
Top Excavation Width	W A6	0 (	10.0000	+ Add to	LF
Add 30 lf to each side	N	60.0000)	N	None	LF
	N	0.0000)	U	Round Up	
	N	1.0000			
AREAST0 Site Area					5600.0000 SF
BORROW0 Borrow to Haul					
Volume of excavation	N	0.0000	N	None	
Contaminated Soil	W A3	0 (	550.0000	+ Add to	BCF
Non-Contaminated Soil	W A1	0	10450.0000	+ Add to	BCF
Demolition Waste	W A4	0	91.0000)	B (R) Divide by	BCF
Convert to Cubic Yards	N	27.0000	M (R) Multiply by		
10% allowance for compaction	N	1.1000			
BORROW0 Borrow to Haul					452.0000 LCY
CONDUR0 Contaminated Duration					
Contaminated Soil	N	(	0.0000	N	None
	W ACSOIL0		23.0000	/ Divide by	LCY
Excav. Rate @ 83 LCY/Hr x 8	N		664.0000	+ Add to	LCY/DAY
Demolition Waste	W ADWAST0		5.0000	/ Divide by	LCY
Excav. Rate @ 70 LCY/Hr x 8	N		560.0000)	U Round Up	LCY/DAY
	N		1.0000		
CONDUR0 Contaminated Duration					1.0000 DAYS
CONTRK0 Contaminated Loads					
Contaminated Soil	N	(	0.0000	N	None
	W ACSOIL0	(	23.0000	+ Add to	LCY
Demolition Waste	W ADWAST0		5.0000)	/ Divide by	LCY
	N		12.8700)	U Round Up	LCY/TRK
	N		1.0000		
CONTRK0 Contaminated Loads					3.0000 LOADS
CYCLES0 Number of Cycles/Truck/Day					
Assume 50 Min. Hours	N	(	50.0000	*	Multiply by
8 Hrs/Day	N		8.0000	/ Divide by	MIN/HR
Total Cycle Time for Borrow	W TIMTOTO		58.1096)	D Round Down	MIN
	N		1.0000		

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 4

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
-----------------------	-----------	-----------	----------	-------------	--------------

CYCLES0 Number of Cycles/Truck/Day 6.0000 CYCLES

DAYPRO0 Total Project Duration

Spread/Compact Soil Qty	N	(	0.0000	N	None	
	W BORROW0	(	452.0000	/	Divide by	LCY
Productivity per Day (219 LCY/hr	N		1752.0000)	+	Add to	CY/DAY
Site Area	W AREAST0	(	5600.0000	/	Divide by	SF
Dryland Grass Productivity / Day	N	(	348480.0000	*	Multiply by	SF/DAY
1/2 Production, 2 Tractors	N		0.5000)	N	None	
	N		0.0000)	+	Add to	
Total Excavation Duration	W DAYS	0	1.0000	+	Add to	DAY
Allowance for Mobilization	N		12.0000)	U	Round Up	DAY
	N		1.0000			

DAYPRO0 Total Project Duration 14.0000 DAY

DAYS 0 Total Excavation Duration

Non Contaminated Soil	W ABURDN0	(	445.0926	/	Divide by	LCY
Productivity per Day	N		1168.0000	+	Add to	LCY/DAY
Demolition Waste Loading	W ADWAST0		5.0000	/	Divide by	LCY
Productivity per Day	N		560.0000	+	Add to	LCY/DAY
Demolition Waste (demolishing)	W ADWAST0		5.0000	/	Divide by	LCY
Productivity per Day	N		40.0000	+	Add to	LCY/DAY
Contaminated Soil	W ACSOIL0		23.0000	/	Divide by	LCY
Productivity per Day	N		664.0000)	U	Round Up	LCY/DAY
	N		1.0000			

DAYS 0 Total Excavation Duration 1.0000 DAYS

DURBORG0 Total Truck Hours

Borrow to Haul	W BORROW0		452.0000	/	Divide by	LCY
Load/Haul Borrow Production Rate	N		219.0000	M	(R) Multiply by	LCY/HR
Number of Trucks Reqd for Borrow	W NUMTRK0		19.0000			TRKS

DURBORG0 Total Truck Hours 39.0000 HRS

LNGSLA0 Long Slope Area

Top Excavation Length	W A5	0	0.0000	N	None	
	N	(	0.0000	N	None	
	N	(	0.0000	N	None	
	W A5	0	20.0000	*	Multiply by	LF
	N		2.0000	-	Subtract Next	

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 5

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
Depth of Excavation	N W A9 0 (	3.0000 10.0000)	* Multiply by / Divide by		LF
Depth of Excavation	N W A9 0 (	2.0000 10.0000)	* Multiply by / Divide by		LF
2 Sides	N N 2.0000	0.5500 0.0000 0.0000)	N None N None * Multiply by		
LNGSLA0 Long Slope Area				181.8182 SF	
NUMTRK0 Number of Trucks Rqrd for Borrow					
Total Loading Output	N N (	219.0000 8.0000)	* Multiply by / Divide by		LCY/HR
Convert to Days	N W CYCLES0	6.0000	B (R) Divide by		HR/DAYS
Number of Cycles/Day/Truck	N	15.0000)			CYCLES
Truck Capacity					LCY
NUMTRK0 Number of Trucks Rqrd for Borrow				19.0000 TRKS	
QTYLLW0 LLW Volume					
Contaminated Soil	W ACSOIL0	23.0000	+ Add to		LCY
Demolition Waste	W ADWAST0	5.0000			LCY
QTYLLW0 LLW Volume				28.0000 LCY	
SAMPCR0 Bottom Area Closure Sample Qty					
Bottom Area	W A7 0 (	200.0000	+ Add to		SF
Long Slope Area	W LNGSLA0	181.8182	+ Add to		SF
Short Slope Area	W SHSHARE0	-181.8182)	B (R) Divide by		SF
Sample Frequency	N (	6264.0000)	> Greater of		SF
Minimum of 6 Samples	N	6.0000			
SAMPCR0 Bottom Area Closure Sample Qty				0.0000 EA	
SAMPHR0 In Situ Monitor=Tot Excavtn Dur					
Non-Contaminated Soil	W ABURDN0 (	445.0926	B (R) Divide by		LCY
Productivity	N	146.0000)	+ Add to		LCY/HR
Contaminated Soil	W ACSOIL0 (	23.0000	B (R) Divide by		LCY
Productivity	N	83.0000)	+ Add to		LCY/HR
Demolition Waste	W ADWAST0 (	5.0000	B (R) Divide by		LCY
SAMPHR0 In Situ Monitor=Tot Excavtn Dur				3.0000 HR	

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 6

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
<hr/>					
SAMPML0 Regular LLW Samples - Mobile Lab					
Contaminated Soil	W ACSOIL0 (	23.0000	+ Add to		LCY
Demolition Waste	W ADWAST0	5.0000)	B (R) Divide by		LCY
	N (	845.0000)	> Greater of		LCY/HR
Minimum of 6 ea	N	6.0000			
<hr/>					
SAMPML0 Regular LLW Samples - Mobile Lab				0.0000 EA	
SAMPNC0 Non-Contam Sample Quantity					
Non Contaminated Soil	W ABURDN0 (	445.0926)	< Lesser of		LCY
	N	6.0000			
<hr/>					
SAMPNC0 Non-Contam Sample Quantity				6.0000 EA	
SAMPQ10 QC Samples					
GW Protection Smpls (S3,M21,L60)	N (	0.0000	N None		
	W A8 0 (	0.0000	+ Add to		EA
BOTTOM AREA CLOSURE SAMPLE QTY.	W SAMPCR0	0.0000	+ Add to		EA
Non-Contam Sample Quantity	W SAMPNC0	6.0000	+ Add to		EA
Regular LLW Samples - Mobile Lab	W SAMPML0	0.0000)	* Multiply by		EA
5% QC SAMPLES	N	0.0500)	U Round Up		
MINIMUM QUANTITY, 3 EA	N	1.0000	> Greater of		
	N	3.0000			
<hr/>					
SAMPQ10 QC Samples				3.0000 EA	
SAMPTF0 Total Off-Site Samples					
Bottom Area Closure Sample Qty	W SAMPCR0	0.0000	+ Add to		EA
GW Protection Smpls (S3,M21,L60)	W A8 0	0.0000	+ Add to		EA
QC Samples	W SAMPQ10	3.0000			EA
<hr/>					
SAMPTF0 Total Off-Site Samples				3.0000 EA	
SAMPTO0 Total On-Site Samples					
Regular LLW Samples - Mobile Lab	W SAMPML0	0.0000	+ Add to		EA
Non-Contam Sample Quantity	W SAMPNC0	6.0000			EA
<hr/>					
SAMPTO0 Total On-Site Samples				6.0000 EA	
SHSHARE0 Short Slope Area					

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 7

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
Top Excavation Width	N (	0.0000	N None		
	N (	0.0000	N None		
	W A6 0 (	10.0000	* Multiply by	LF	
		2.0000	- Subtract Next		
		3.0000	* Multiply by		
Depth of Excavation	W A9 0	10.0000)	/ Divide by	LF	
	N (	2.0000)	* Multiply by		
Depth of Excavation	W A9 0 (	10.0000	/ Divide by	LF	
		0.5500)	N None		
		0.0000)	N None		
		0.0000)	* Multiply by		
2 Sides	N	2.0000			
SHSARE0 Short Slope Area					-181.8182 SF
SITEPRO Site Perimeter					
Top Excavation Length	N (	0.0000	N None		
Add 30 lf to each side	W A5 0 (	20.0000	+ Add to	LF	
2 sides	N	60.0000)	* Multiply by	LF	
Top Excavation Width	N	2.0000	+ Add to		
Add 30 lf to each side	W A6 0 (	10.0000	+ Add to	LF	
2 sides	N	60.0000)	* Multiply by	LF	
	N	2.0000)	U Round Up		
	N	1.0000			
SITEPRO Site Perimeter					300.0000 LF
TIMTOT0 Total Cycle Time for Borrow					
Loading Time for Borrow	N	0.0000	N None		
Truck Capacity	N (	15.0000	/ Divide by	LCY	
Total Loading Output	N	219.0000	+ Add to	LCY/HR	
Hauling Time for Borrow	N	0.0000	N None		
Hauling Distance for Borrow	W ADISBR0	15.0000	/ Divide by	MILE	
Hauling Speed for Borrow	N	30.0000	+ Add to	MPH	
Dump Time	N	0.0250	+ Add to	HR	
Return Time for Borrow	N	0.0000	N None		
Hauling Distance for Borrow	W ADISBR0	15.0000	/ Divide by	MILE	
Return Speed for Borrow	N	40.0000)	* Multiply by	MPH	
Convert to minutes	N	60.0000			MIN/HR
TIMTOT0 Total Cycle Time for Borrow					58.1096 MIN
TOTPPE0 Total PPE Sets					
Total Excavation Duration	W DAYS 0	1.0000	* Multiply by	DAY	
2 Changes per day	N	2.0000	* Multiply by		

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
. HANFORD: ER PROGRAM
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 8

. HANFORD: ER PROGRAM	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
4 Workers	N	4.0000			
TOTPPE0 Total PPE Sets				8.0000	SETS
WASTONO Tonnage of Waste					
Contaminated Soil	W ACSOIL0	23.0000	* Multiply by		LCY
	N	1.5000	+ Add to		TON/LCY
Demolition Waste	W ADWAST0	5.0000	* Multiply by		LCY
	N	1.2700			
WASTONO Tonnage of Waste				40.8500	TONS
0 HANFORD: ER PROGRAM				1.0000	EA
01 Mobilization & Prep Work				1.0000	LS
01.04.05 Decon Fac. for Const. Equip/Veh.				24.0000	HR
PRODUCTIVITY		1.0000 HR /HR			
DURATION		24.0000 HR			
1 Laborer Group (3 ea.)	D	24.0000 HR	M (R) Multiply by	3.0000	72.0000 HR
2 OPERATING ENGINEERS (1 ea)	D	24.0000 HR	M (R) Multiply by	1.0000	24.0000 HR
3 TRK,Hwy,4X4,F250,3/4T,8800 GVW	D	24.0000 HR	M (R) Multiply by	1.0000	24.0000 HR
4 HYD EXCAV,TRK MTD,0.500CY,TB,6X4	D	24.0000 HR	M (R) Multiply by	1.0000	24.0000 HR
5 Small Tools - 3 ea	D	24.0000 HR	M (R) Multiply by	3.0000	72.0000 HR
01.04.11 Barricades (Install Temp. Fence)					
W SITEPRO		300.0000 LF		1.0000	300.0000 LF
PRODUCTIVITY		100.0000 LF /HR			
DURATION		3.0000 HR			
1 Laborer Group - 1 (2 ea.)	D	3.0000 HR	M (R) Multiply by	2.0000	6.0000 HR
2 Truck Drivers (1 ea)	D	3.0000 HR	M (R) Multiply by	1.0000	3.0000 HR
3 Trl,Hwy,4X2,F350,1T,10000 GVW	D	3.0000 HR	M (R) Multiply by	1.0000	3.0000 HR
4 Truck Opt,Flatbed, 8' x 12.0'	D	3.0000 HR	M (R) Multiply by	1.0000	3.0000 HR
5 Small Tools - 2 ea	D	3.0000 HR	M (R) Multiply by	2.0000	6.0000 HR
6 Materials/Supply Allowance for	P	300.0000 LF	M (R) Multiply by	1.0000	300.0000 LF
01.06 Temp Relocatns/Roads/Struct/Util					
W QTYLLW0		28.0000 LCY		1.0000	28.0000 LCY
01.06.01 Roads (Site Road Maintenance)					
W QTYLLW0		28.0000 LCY		1.0000	28.0000 LCY

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
01.06.01. Roads (Site Road Maintenance)
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 9

01.06.01. Roads (Site Road Maintenance) REFERENCE		REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
Site Road Maintenance	W QTYLLW0	28.0000	LCY M (R) Multiply by	1.0000	28.0000
02 Monitoring, Sampling, & Analysis					1.0000 LS
02.08.05 Sub-Surface Soil (Field Screen-	W DAYS 0	1.0000	DAY	8.0000	8.0000 HRS
1 ERC Environmental Tech. (.5 ea)	P	8.0000	HRS M (R) Multiply by	0.5000	4.0000 HR
2 RADIATION CONTROL TECH. (1 ea)	P	8.0000	HRS M (R) Multiply by	1.0000	8.0000 HR
3 In Situ Monitoring Equip.	P	8.0000	HRS M (R) Multiply by	0.0000	0.0000 HR
02.08.91 Excav. GW Prot. Sample Trenches	W A8 0	0.0000	EA	3.0000	0.0000 EA
02.08.92 Site Certificaton Sampling	W SAMPCR0	0.0000	EA	1.0000	0.0000 EA
	PRODUCTIVITY	3.0000	EA /HR		
	DURATION	0.0000	HR		
1 ERC Sampler (1 ea)	D	0.0000	HR M (R) Multiply by	1.0000	0.0000 HR
2 RADIATION CONTROL TECH. (1 ea)	D	0.0000	HR M (R) Multiply by	1.0000	0.0000 HR
3 Materials/Supplies Allowance	P	0.0000	EA M (R) Multiply by	1.0000	0.0000 EA
02. Analyze LLW Sample - Mobile Lab	W SAMPML0	0.0000	EA M (R) Multiply by	1.0000	0.0000 EA
02. Analyze Quality Control Samples	W SAMPQ10	3.0000	EA M (R) Multiply by	1.0000	3.0000 EA
02. Analyze Site Certification	W SAMPCR0	0.0000	EA M (R) Multiply by	1.0000	0.0000 EA
02. Groundwater Protection Samples	W A8 0	0.0000	EA M (R) Multiply by	1.0000	0.0000 EA
02. Non-Contam Sample Quantity	W SAMPNC0	6.0000	EA M (R) Multiply by	1.0000	6.0000 EA
08 Solids Collection & Containment					1.0000 LS
08.01 Contaminated Soil Collection					1.0000 LS
08.01.02.01 Excavate/Load Contaminated Soil	W ACSOIL0	23.0000	LCY	1.0000	23.0000 LCY
	PRODUCTIVITY	83.0000	LCY/HR		
	DURATION	0.2771	HR		
1 Heavy Equipment Operator (1 ea)	D	0.2771	HR M (R) Multiply by	1.0000	0.0000 HR
2 HYD EXCAV, CRWLR, 2.00 CY BKT	D	0.2771	HR M (R) Multiply by	1.0000	0.0000 HR
08.01.02.02 Provide Dust Suppression	W ACSOIL0	23.0000	LCY	1.0000	23.0000 LCY
	PRODUCTIVITY	83.0000	LCY/HR		
	DURATION	0.2771	HR		

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08.01.02.02. Provide Dust Suppression
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 10

08.01.02.02. Provide Dust Suppression		REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
1 Heavy Truck Driver		D	0.2771 HR M (R) Multiply by		1.0000	0.0000 HR
2 Trl,Wtr,Off-Hwy, 6000GAL,Cat621E		D	0.2771 HR M (R) Multiply by		1.0000	0.0000 HR
08.01.03 Hauling (To Queue Area)		W CONDUR0	1.0000 DAY		8.0000	8.0000 HRS
1 Truck Drivers (3 ea)		P	8.0000 HRS M (R) Multiply by		3.0000	24.0000 HR
2 TRK,HWY, 46,000 GVW, 6X4, 3 AXLE		P	8.0000 HRS M (R) Multiply by		3.0000	24.0000 HR
3 20 Ton Tilt Trailer		P	8.0000 HRS * Multiply by		3.0000	24.0000 HR
08.01.04.01 Excavate and Stockpile		W ABURDN0	445.0926 LCY		1.0000	445.0926 LCY
PRODUCTIVITY			146.0000 LCY/HR			
DURATION			3.0486 HR			
1 Heavy Equipment Operator (1 ea)		D	3.0486 HR M (R) Multiply by		1.0000	3.0000 HR
2 HYD EXCAV, CRWLR, 2.00 CY BKT		D	3.0486 HR M (R) Multiply by		1.0000	3.0000 HR
3 Heavy Truck Driver (2 ea)		D	3.0486 HR M (R) Multiply by		2.0000	6.0000 HR
4 Trk,Off-Hwy,R-Dump, 15-19CY, 25T		D	3.0486 HR M (R) Multiply by		2.0000	6.0000 HR
08.01.04.02 Provide Dust Suppression		W ABURDN0	445.0926 LCY		1.0000	445.0926 LCY
PRODUCTIVITY			146.0000 LCY/HR			
DURATION			3.0486 HR			
1 Truck Driver (1 ea)		D	3.0486 HR M (R) Multiply by		1.0000	3.0000 HR
2 Trk,Wtr,Off-Hwy, 6000GAL,CAT621E		D	3.0486 HR M (R) Multiply by		1.0000	3.0000 HR
3 Material Cost for Soil Sement		W ABURDN0	445.0926 LCY * Multiply by		1.0000	445.0926 LCY
08.01.91.01 Low Activity Containers		W CONDUR0	1.0000 DAY		8.0000	8.0000 HRS
PRODUCTIVITY			1.0000 HRS/HR			
DURATION			8.0000 HR			
01	Radiation Control Tech. (3 ea)	P	8.0000 HRS M (R) Multiply by		3.0000	24.0000 HR
08.01.91.02 Decontaminate Containers		W CONDUR0	1.0000 DAY		8.0000	8.0000 HR
PRODUCTIVITY			1.0000 HR /HR			
DURATION			8.0000 HR			
1 Laborer (3 ea)		P	8.0000 HR M (R) Multiply by		3.0000	24.0000 S1
2 Press Washer, 5.4GPM, 3KSI,PORT		P	8.0000 HR M (R) Multiply by		1.0000	8.0000 HR
3 Small Tools - 3 ea		P	8.0000 HR M (R) Multiply by		3.0000	24.0000 HR
08.01.92 Queue Area Operations		W CONDUR0	1.0000 DAY		8.0000	8.0000 HRS

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08.01.92. Queue Area Operations
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 11

08.01.92. Queue Area Operations		REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
1	Laborers (2 ea)	P	8.0000 HRS M	(R) Multiply by	2.0000	16.0000 HR
2	Radiation Control Tech. (.5 ea)	P	8.0000 HRS M	(R) Multiply by	0.5000	4.0000 HR
3	Container liners	W CONTRK0	3.0000 LOA M	(R) Multiply by	1.0000	3.0000 EA
08.01.93 Radiation Control Tech. Support						
		W DAYS 0	1.0000 DAY		8.0000	8.0000 HRS
		PRODUCTIVITY	1.0000 HRS/HR			
		DURATION	8.0000 HR			
1	Radiation Control Tech. (1.5 ea)	P	8.0000 HRS M	(R) Multiply by	1.5000	12.0000 HR
08.	Allowance for Mobile Site	W DAYS 0	1.0000 DAY B	(R) Divide by	30.0000	0.0000 MO
08.	ERC PPE (Subcontractor Supplied)	W TOTPPE0	8.0000 SET *	Multiply by	1.0000	8.0000
08.	S/C PPE (Subcontractor Supplied)	W TOTPPE0	8.0000 SET *	Multiply by	1.0000	8.0000
08.01.95.02 Laundry Services						0.0000 LS
		PRODUCTIVITY	1.0000 LS /HR			
		DURATION	0.0000 HR			
	Regulated PPE Laundry	W DAYS 0	1.0000 DAY M	(R) Multiply by	8.0000	8.0000 HR
	Mask Cleaning Services	W DAYS 0	1.0000 DAY B	(R) Divide by	30.0000	0.0000 MO
10.03.02 Demolition						
		W ADWAST0	5.0000 LCY		1.0000	5.0000 LCY
		PRODUCTIVITY	5.0000 LCY/HR			
		DURATION	1.0000 HR			
01	Laborers (1 ea)	D	1.0000 HR M	(R) Multiply by	1.0000	1.0000 HR
02	Operating Engineers (1 ea)	D	1.0000 HR M	(R) Multiply by	1.0000	1.0000 HR
03	CONC PULVERIZER, 42"THICK, 30"W	D	1.0000 HR M	(R) Multiply by	1.0000	1.0000 HR
04	HYD EXCAV, CRWLR, 2.88 CY BKT	D	1.0000 HR M	(R) Multiply by	1.0000	1.0000 HR
05	Small Tools (1 ea)	D	1.0000 HR M	(R) Multiply by	1.0000	1.0000 HR
10.06.01 LSA (Low Specific Activity)						
		W ADWAST0	5.0000 LCY		1.0000	5.0000 LCY
		PRODUCTIVITY	70.0000 LCY/HR			
		DURATION	0.0714 HR			
01	Operating Engineers (1 ea)	D	0.0714 HR *	Multiply by	1.0000	0.0714 HR
02	HYD EXCAV, CRWLR, 2.88 CY BKT	D	0.0714 HR *	Multiply by	1.0000	0.0714 HR
20 Site Restoration						1.0000 LS

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20.01.03. Load/Haul Borrow (Backfill)
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 12

20.01.03. Load/Haul Borrow (Backfill)		REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
<hr/>						
20.01.03 Load/Haul Borrow (Backfill)						
<hr/>						
1	Heavy Equipment Operator	D	W BORROW0	452.0000 LCY	1.0000	452.0000 LCY
2	Ldr,FE, WH, 4.50 CY, Artic, 966E	D	PRODUCTIVITY	219.0000 LCY/HR		
3	Heavy Truck Driver		DURATION	2.0639 HR		
4	Trk,Off-Hwy,R-Dump, 15-19CY, 25T	W DURB0R0				
1	Heavy Equipment Operator	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
2	Ldr,FE, WH, 4.50 CY, Artic, 966E	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
3	Heavy Truck Driver		39.0000 HRS M (R) Multiply by	1.0000	39.0000 HR	
4	Trk,Off-Hwy,R-Dump, 15-19CY, 25T	W DURB0R0	39.0000 HRS M (R) Multiply by	1.0000	39.0000 HR	
20.01.06 Spreading (Spread/Comp. Borrow)						
1	Heavy Truck Driver (1 ea)	D	W BORROW0	452.0000 LCY	1.0000	452.0000 LCY
2	Trk,Wtr,Off-Hwy, 6000GAL,Cat621E	D	PRODUCTIVITY	219.0000 LCY/HR		
3	Heavy Equipment Operator (1 ea)	D	DURATION	2.0639 HR		
4	DOZER, CRWLR, 251-300 HP	D				
1	Heavy Truck Driver (1 ea)	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
2	Trk,Wtr,Off-Hwy, 6000GAL,Cat621E	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
3	Heavy Equipment Operator (1 ea)	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
4	DOZER, CRWLR, 251-300 HP	D	2.0639 HR M (R) Multiply by	1.0000	2.0000 HR	
20.04.01 Mech. Seeding with Fertilizer						
1	Operating Engineers (2 ea)	P	W AREAST0	5600.0000 SF	43560.0000	0.1286 HRS
2	4 Wheel Drive Tractor (Farm)	P	PRODUCTIVITY	1.0000 HRS/HR		
3	Mulch Spreader (1 ea)	P	DURATION	0.1286 HR		
4	Tiller (1 ea)	P				
5	Primary Seeder (1 ea)	P				
6	Seed, Fertilizer and Mulch	P				
1	Operating Engineers (2 ea)	P	0.1286 HRS M (R) Multiply by	2.0000	0.0000 HR	
2	4 Wheel Drive Tractor (Farm)	P	0.1286 HRS M (R) Multiply by	2.0000	0.0000 HR	
3	Mulch Spreader (1 ea)	P	0.1286 HRS M (R) Multiply by	1.0000	0.0000 HR	
4	Tiller (1 ea)	P	0.1286 HRS M (R) Multiply by	1.0000	0.0000 HR	
5	Primary Seeder (1 ea)	P	0.1286 HRS M (R) Multiply by	1.0000	0.0000 HR	
6	Seed, Fertilizer and Mulch	P	0.1286 HRS * Multiply by	1.0000	0.1286 ACR	
20.04.04 Shrubs/Trees/Groundcover						
1	Laborers (6 ea)	D	W AREAST0	5600.0000 SF	43560.0000	0.1286 ACR
2	Grade 23 Supervision (1 EA)	D	PRODUCTIVITY	1.0000 ACR/HR		
3	Trk,Hwy, 8,800GVW,4X4, 3/4T-Pkup	D	DURATION	0.1286 HR		
4	Small tools (6 ea)	D				
5	Tubling Cost	W AREAST0	5600.0000 SF / Divide by	43560.0000	0.1286 ACR	
1	Laborers (6 ea)	D	0.1286 HR M (R) Multiply by	6.0000	1.0000 HR	
2	Grade 23 Supervision (1 EA)	D	0.1286 HR M (R) Multiply by	1.0000	0.0000 HR	
3	Trk,Hwy, 8,800GVW,4X4, 3/4T-Pkup	D	0.1286 HR M (R) Multiply by	1.0000	0.0000 HR	
4	Small tools (6 ea)	D	0.1286 HR M (R) Multiply by	6.0000	1.0000 HR	
20.04.91 Irrigation						
1	W AREAST0	5600.0000 SF	43560.0000	0.1286 ACR		
2	PRODUCTIVITY	0.0220 ACR/HR				
3	DURATION	5.8455 HR				

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20.04.91. Irrigation
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 13

20.04.91. Irrigation		REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
1	Truck Driver	D	5.8455 HR M (R) Multiply by		1.0000	6.0000 HR
2	Trk,Hwy, 43,000 GVW, 6X4, 3 Axle	D	5.8455 HR M (R) Multiply by		1.0000	6.0000 HR
3	Trlr,Water Tanker,4000Gal (1 ea)	D	5.8455 HR M (R) Multiply by		1.0000	6.0000 HR
5	2" Dist. lines w/ Sprinkler Hds.	P	0.1286 ACR * Multiply by		1.0000	0.1286 ACR
21 Demobilization					1.0000	LS
21.01. 5 Remove Decontamination Area					16.0000	HRS
Laborers (3 ea)	P	16.0000 HRS *	Multiply by		3.0000	48.0000 HR
Small Tools (3 ea)	P	16.0000 HRS *	Multiply by		3.0000	48.0000 HR
HYD EXCAV,TRK MTD,0.500CY,TB,6X4	P	16.0000 HRS *	Multiply by		1.0000	16.0000 HR
Operating Engineers (1 ea)	P	16.0000 HRS *	Multiply by		1.0000	16.0000 HR
Trk,Off-Hwy,R-Dump, 15-19CY, 25T	P	16.0000 HRS *	Multiply by		1.0000	16.0000 HR
Truck Driver (1 ea)	P	16.0000 HRS *	Multiply by		1.0000	16.0000 HR
21.01.11 Barricades (Remove Temp. Fence)					300.0000	LF
W SITEPRO		300.0000 LF			1.0000	300.0000 LF
PRODUCTIVITY		200.0000 LF /HR				
DURATION		1.5000 HR				
1	Laborers (2 ea)	D	1.5000 HR M (R) Multiply by		2.0000	3.0000 HR
2	Small Tools (2 ea)	D	1.5000 HR M (R) Multiply by		2.0000	3.0000 HR
3	Truck Drivers (1 ea)	D	1.5000 HR M (R) Multiply by		1.0000	2.0000 HR
4	Trk,Hwy,10,000GVW,4X2, 1T-Pickup	D	1.5000 HR M (R) Multiply by		1.0000	2.0000 HR
5	Flatbed, 8'x 12.0' (1 ea)	D	1.5000 HR M (R) Multiply by		1.0000	2.0000 HR
21.01.25 Roads & Parking (Scarify Roads)					0.5000	HRS
Operating Engineers (1 ea)	P	0.5000 HRS *	Multiply by		1.0000	0.5000 HR
Grader,Motor, Artic, Cat 12-G	P	0.5000 HRS *	Multiply by		1.0000	0.5000 HR
5 Shank Ripper/Scarifyer (1 ea)	P	0.5000 HRS *	Multiply by		1.0000	0.5000 HR
21.01.91 Misc. Cleanup Allowance					8.0000	HRS
1	Laborers (2 ea)	P	8.0000 HRS *	Multiply by	2.0000	16.0000 HR
2	Small Tools (2 ea)	P	8.0000 HRS *	Multiply by	2.0000	16.0000 HR
3	Truck Drivers (1 ea)	P	8.0000 HRS *	Multiply by	1.0000	8.0000 HR
4	Trk,Hwy,10,000GVW,4X2, 1T-Pickup	P	8.0000 HRS *	Multiply by	1.0000	8.0000 HR
5	Flatbed, 8'x 12.0' (1 ea)	P	8.0000 HRS *	Multiply by	1.0000	8.0000 HR
70.	ERC Cost/Scheduling Engineer	W DAYPRO0	14.0000 DAY M (R) Multiply by		2.6900	38.0000 HR
70.	ERC Design Engineer	W DAYPRO0	14.0000 DAY M (R) Multiply by		1.7200	24.0000 HR
70.	ERC Project Engineer	W DAYPRO0	14.0000 DAY M (R) Multiply by		2.2700	32.0000 HR
70.	ERC Environmental Compliance	W DAYPRO0	14.0000 DAY M (R) Multiply by		0.0000	0.0000 HR
70.	ERC Procurement	W DAYPRO0	14.0000 DAY M (R) Multiply by		1.6500	23.0000 HR

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
70. Project/Construction Mgmt & Supt
** LINK LISTING **

TIME 13:02:27
SETTINGS PAGE 14

70. Project/Construction Mgmt & Supt	REFERENCE	REF VALUE	OPERATOR	LOCAL INPUT	QUANTITY UOM
70. ERC Project Management	W DAYPRO0	14.0000	DAY M (R) Multiply by	3.3400	47.0000 HR
70. ERC Quality Assurance	W DAYPRO0	14.0000	DAY M (R) Multiply by	0.5400	8.0000 HR
70. ERC Field Support	W DAYPRO0	14.0000	DAY M (R) Multiply by	8.5200	119.0000 HR
70. ERC Administrative Services	W DAYPRO0	14.0000	DAY M (R) Multiply by	1.4100	20.0000 HR
70. ERC Rad Con Engineer	W DAYPRO0	14.0000	DAY M (R) Multiply by	0.4600	6.0000 HR
70. ERC Safety Engineer	W DAYPRO0	14.0000	DAY M (R) Multiply by	1.4200	20.0000 HR
XXX. Demolition Waste	W A4 0	91.0000	BCF * Multiply by	1.0000	91.0000 BCF
XXX. Non-Contaminated Soil	W A1 0	10450.0000	BCF * Multiply by	1.0000	10450.0000 BCF
XXX. Contaminated Soil	W A3 0	550.0000	BCF * Multiply by	1.0000	550.0000 BCF
XXX. Top Excavation Length	W A5 0	20.0000	LF * Multiply by	1.0000	20.0000 LF
XXX. Top Excavation Width	W A6 0	10.0000	LF * Multiply by	1.0000	10.0000 LF
XXX. Bottom Area	W A7 0	200.0000	SF * Multiply by	1.0000	200.0000 SF
XXX. Hauling Distance for Borrow	W ADISBR0	15.0000	MIL * Multiply by	1.0000	15.0000 MI
XXX. Groundwater Protection Samples	W A8 0	0.0000	EA * Multiply by	1.0000	0.0000 EA
XXX. Depth of Excavation	W A9 0	10.0000	LF * Multiply by	1.0000	10.0000 LF
XXX. Non-Contaminated Soil - Reduced	W ABURDN0	445.0926	LCY * Multiply by	1.0000	445.0926 LCY
XXX. Contaminated Soil	W ACSOIL0	23.0000	LCY * Multiply by	1.0000	23.0000 LCY
XXX. Site Area	W AREAST0	5600.0000	SF * Multiply by	1.0000	5600.0000 SF
XXX. Volume of Transition Zone Soil	W ATRSOL0	0.0000	* Multiply by	1.0000	30388.0000 LCY
XXX. Total Project Duration	W DAYPRO0	14.0000	DAY * Multiply by	1.0000	14.0000 DAY
XXX. Total Excavation Duration	W DAYS 0	1.0000	DAY * Multiply by	1.0000	1.0000 DAY
XXX. Days to Irrigate Site (1 Crew)	W IRRDAY0	0.0000	* Multiply by	1.0000	0.9183 DAY
XXX. Low Level Waste (LLW) Volume	W QTYLLW0	28.0000	LCY * Multiply by	1.0000	28.0000 LCY
XXX. Duration of In-Situ Monitoring	W SAMPHR0	3.0000	HR * Multiply by	1.0000	3.0000 HR
XXX. Regular LLW Samples - Mobile Lab	W SAMPMLO	0.0000	EA * Multiply by	1.0000	0.0000 EA
XXX. Bottom Area Closure Sample Qty.	W SAMPCR0	0.0000	EA * Multiply by	1.0000	0.0000 EA
XXX. QC Sample Quantity and Analysis	W SAMPQ10	3.0000	EA * Multiply by	1.0000	3.0000 EA
XXX. Non-Contaminated Sample Quantity	W SAMPNC0	6.0000	EA * Multiply by	1.0000	6.0000 LF
XXX. Site Perimeter	W SITEPR0	300.0000	LF * Multiply by	1.0000	300.0000 LF
XXX. Spread/Compact Soil Quantity	W SPREAD0	0.0000	* Multiply by	1.0000	132142.0000 LCY
XXX. Total On-Site Samples	W SAMPTO0	6.0000	EA * Multiply by	1.0000	6.0000 EA
XXX. Total Off-Site Samples	W SAMPTFO	3.0000	EA * Multiply by	1.0000	3.0000 EA

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
01. Mobilization & Prep Work

TIME 13:02:27
DETAIL PAGE 1

01.01. Mobilize Equipment & Facilities	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
01. Mobilization & Prep Work									
01.01. Mobilize Equipment & Facilities									
Note:									
1.	Mob and demob will be one or two times per reactor area or 300 area depending on size. Estimates for mob and demob are completed apart from the waste site MCACES estimates on an EXCEL model, and will reflect the equipment and facility requirements called for in the models.								
2.	Mobilization of facilities such as office trailers, etc, (i.e. General Contractor mobilization) are excluded.								
TOTAL Mobilize Equipment & Facilities				0	0	0	0	0	0
01.04. Setup/Construct Temp Facilities									
01.04.05. Decon Fac. for Const. Equip/Veh. (Construct Decon Areas)									
Notes:									
The duration for this activity is 24 hours.									
BLT S1 Laborer Group (3 ea.)	72.00	HR	11786	27.77 1,999	0.00 0	0.00 0	0.00 0	27.77 1,999	27.77
BLT S1 OPERATING ENGINEERS (1 ea)	24.00	HR	11788	31.56 757	0.00 0	0.00 0	0.00 0	31.56 757	31.56
FPC S1 TRK,HWY,4X4,F250,3/4T,8800 GVW 4X4 3/4 TON PICK-UP - 1 ea	24.00	HR	T50FO004	0.00 0	8.89 213	0.00 0	0.00 0	8.89 213	8.89
MIL S1 HYD EXCAV,TRK MTD,0.500CY,TB,6X4	24.00	HR	H30GA002	0.00 0	53.57 1,286	0.00 0	0.00 0	53.57 1,286	53.57
FPC S1 Small Tools - 3 ea	72.00	HR	XMIIXX020	0.00 0	1.57 113	0.00 0	0.00 0	1.57 113	1.57
M USR S1 Construction Materials/Supplies Allowance	1.00	LS		0.00 0	0.00 0	2160.00 2,160	0.00 0	2160.00 2,160	2160.00
M USR S1 Allowance for Tank Assume 1000 gal plastic tank for water collection	1.00	LS		0.00 0	0.00 0	1620.00 1,620	0.00 0	1620.00 1,620	1620.00
TOTAL Decon Fac. for Const. Equip/Veh.	24.00	HR		2,757	1,612	3,780	0	8,149	339.54

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
01. Mobilization & Prep Work

TIME 13:02:27
DETAIL PAGE 2

01.04. Setup/Construct Temp Facilities	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
01.04.11. Barricades (Install Temp. Fence)							
Notes:							
Install construction barricade fence. The barricade is assumed to be located 30 ft. from the top of excavation.							
Output:							
Production rate = 100 LF/HR							
Material supply allowance is \$1.75/LF							
BLT S1 Laborer Group - 1 (2 ea.)	6.00 HR 11786	27.77 167	0.00 0	0.00 0	0.00 0	27.77 167	27.77
BLT S1 Truck Drivers (1 ea)	3.00 HR 11792	32.48 97	0.00 0	0.00 0	0.00 0	32.48 97	32.48
FPC S1 Trl,Hwy,4X2,F350,1T,10000 GVW 4X2 1-TON PICK-UP,10000 GVW - 1 ea	3.00 HR T50FO005	0.00 0	8.60 26	0.00 0	0.00 0	8.60 26	8.60
FPC S1 Truck Opt,Flatbed, 8' x 12.0' 8' x 12.0' - 1 ea	3.00 HR T40XX014	0.00 0	0.61 2	0.00 0	0.00 0	0.61 2	0.61
FPC S1 Small Tools - 2 ea	6.00 HR XMIXX020	0.00 0	1.57 9	0.00 0	0.00 0	1.57 9	1.57
M USR S1 Materials/Supply Allowance for Fence	300.00 LF	0.00 0	0.00 0	1.89 567	0.00 0	1.89 567	1.89
TOTAL Barricades (Install Temp. Fence)	300.00 LF	264	37	567	0	868	2.89

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
01. Mobilization & Prep Work

TIME 13:02:27
DETAIL PAGE 3

01.04. Setup/Construct Temp Facilities	QUANTITY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
01.04.91. Waste Site Survey									
USR S1 Allowance for Site Survey	1.00	LS		0.00 0	0.00 0	0.00 0	1600.00 1,600	1600.00 1,600	1600.00 1,600
TOTAL Waste Site Survey				0	0	0	1,600	1,600	
TOTAL Setup/Construct Temp Facilities				3,021	1,649	4,347	1,600	10,617	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
01. Mobilization & Prep Work

TIME 13:02:27
DETAIL PAGE 4

01.06. Temp Relocatns/Roads/Struct/Util	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
01.06. Temp Relocatns/Roads/Struct/Util									
Notes:									
The unit rate was created using a detailed estimate on sites in the 100-BC Area, and by pro-rating to a cost/LCY of contaminated soil. This cost is for in-situ gravel access roads, and for asphalt repairs.									
01.06.01. Roads (Site Road Maintenance)									
Notes:									
The unit rate of \$.58/LCY is from a separate EXCEL spreadsheet. Road length is assumed to be 625 LF. Asphalt patching is assumed at 1 time per 300 SY of road. Dust suppression is assumed to be 1 pass.									
USR S1 Site Road Maintenance				0.00	0.00	0.00	0.58	0.58	
	28.00			0	0	0	16	16	0.58
TOTAL Roads (Site Road Maintenance)	28.00	LCY		0	0	0	16	16	0.58
TOTAL Temp Relocatns/Roads/Struct/Util	28.00	LCY		0	0	0	16	16	0.58
TOTAL Mobilization & Prep Work				3,021	1,649	4,347	1,616	10,633	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
02. Monitoring, Sampling, & Analysis

TIME 13:02:27
DETAIL PAGE 5

02.08. Sampling Rad Contaminated Media	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
02. Monitoring, Sampling, & Analysis							
02.08. Sampling Rad Contaminated Media							
(Radiation Monitoring)							
02.08.05. Sub-Surface Soil (Field Screening/Take Samples)							
Notes:							
Duration for this activity is equal to the excavation/demolition duration.							
It is assumed that the Rad. Control Technician will be present during all							
excavation/demolition activities.							
ERC AB ERC Environmental Tech. (.5 ea	4.00 HR 31000	60.25 241	0.00 0	0.00 0	0.00 0	60.25 241	60.25
HAM AB RADIATION CONTROL TECH. (1 ea)	8.00 HR 10T17	51.61 413	0.00 0	0.00 0	0.00 0	51.61 413	51.61
TOTAL Sub-Surface Soil (Field Screen-	8.00 HRS	654	0	0	0	654	81.74

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
02. Monitoring, Sampling, & Analysis

TIME 13:02:27

02.08. Sampling Rad Contaminated Media	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
02.08.91. Excav. GW Prot. Sample Trenches									
Note:									
Number of trenches are yet to be determined by the project (for groundwater protection samples). Trench cost is \$750/ea. Since the projects have not decided if this work is needed it is set at \$0 for now.									
TOTAL Excav. GW Prot. Sample Trenches				0		0		0	
02.08.92. Site Certificaton Sampling									
Note:									
Activity includes the collection of certification samples for an area equal to the bottom area plus all side slopes.									
Sample Frequency = 1 sample/6264 SF (Minimum of 6)									
Production Rate = 3 samples/crew hr.									
TOTAL Site Certificaton Sampling		EA		-----	-----	-----	-----	-----	-----
				0	0	0	0	0	0
TOTAL Sampling Rad Contaminated Media				654		0		0	654

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
02. Monitoring, Sampling, & Analysis

TIME 13:02:27
DETAIL PAGE 7

02.10. Radioactive Waste Analysis	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
02.10. Radioactive Waste Analysis									
02.10.05. Rad. Anal. Veg./Sediment/Soil									
(Sample Analytical Costs, Mobile lab & Offsite)									
Notes:									
1. LLW Samples - Sample frequency is 1 per 845 LCY with a minimum of 6. Cost per sample is \$1,100/Sample.									
2. QC Samples - 5% of all samples, minimum of 3 ea. Cost is \$2,000/ea.									
3. Site Certification Samples - Sample Frequency is 1 per 6264 SF of exposed area with a min. of 6 ea. Exposed area includes bottom area and all side slopes. Cost is \$2,000/ea.									
4. Groundwater Protection Samples - These are retained in the model but set to show no cost until it is decided if this is required. Sample cost is \$2,000/ea.									
5. Non-Contam. Samples - Sample frequency is total of 6 samples per site except for sites less than 6 LCY where it will be 1 sample per LCY. Sample cost is \$1,100/ea.									
USR AB Analyze Quality Control Samples - Off-Site Lab	3.00	EA		0.00	0.00	0.00	2000.00	2000.00	
Assume 5% of the sum of all other samples. Minimum of 3 sample.				0	0	0	6,000	6,000	2000.00
USR AB Non-Contam Sample Quantity Assume 6 samples per site except for sites less than 6 LCY where it will be 1 sample per LCY.	6.00	EA		0.00	0.00	0.00	1100.00	1100.00	
				0	0	0	6,600	6,600	1100.00
TOTAL Rad. Anal. Veg./Sediment/Soil				-----	-----	-----	12,600	12,600	
				0	0	0			
TOTAL Radioactive Waste Analysis				-----	-----	-----	12,600	12,600	
				0	0	0			
TOTAL Monitoring, Sampling, & Analysis				654	0	0	12,600	13,254	
				-----	-----	-----			

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 8

08.01. Contaminated Soil Collection	QUANTY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08. Solids Collection & Containment							
08.01. Contaminated Soil Collection							
(Excavate/Haul)							
08.01.02. Excavation (Contaminated Soil)							
08.01.02.01. Excavate/Load Contaminated Soil							
Work to be Performed:							
Excavate contaminated soil/buried waste by hydraulic excavator.							
Assumptions:							
1. A 15% swell factor has been applied to bank soil volume.							
2. Excavation rate is 83 LCY/HR (664 LCY/DAY)							
TOTAL Excavate/Load Contaminated Soil	23.00 LCY	0	0	0	0	0	0.00

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 9

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.02.02. Provide Dust Suppression							
<hr/>							
Work to be Performed:							
Suppress dust by water spray.							
Output:							
Duration is equal to the duration of contaminated soil excavation.							
TOTAL Provide Dust Suppression	23.00 LCY	0	0	0	0	0	0.00
TOTAL Excavation (Contaminated Soil)		0	0	0	0	0	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 10

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.03. Hauling (To Queue Area)							
Note: Haulage of contaminated soils and demolition debris from the excavation to the Queue area. Assume 3 trucks for the operation. Duration is equal to time when contaminated soil and debris are being excavated.							
BLT AB Truck Drivers (3 ea)	24.00 HR 11792	32.48 780	0.00 0	0.00 0	0.00 0	32.48 780	32.48
MIL AB TRK,HWY, 46,000 GVW, 6X4, 3 AXLE (3 ea.)	24.00 HR T50PE002	0.00 0	37.08 890	0.00 0	0.00 0	37.08 890	37.08
USR AB 20 Ton Tilt Trailer (For trucks to haul ERDF containers) (3 ea)	24.00 HR YA1	0.00 0	3.28 79	0.00 0	0.00 0	3.28 79	3.28
TOTAL Hauling (To Queue Area)	8.00 HRS	----- 780	969	0	0	1,748	218.53

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 11

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.04. Stockpiling (Exc. Overburden)							
08.01.04.01. Excavate and Stockpile							
Work to be Performed:							
Excavate overburden by hydraulic excavator and haul to stockpile. Assume 2 ea, 15 cy dump trucks per excavator.							
Production Rate:							
146 loose cu yd per crew hour							
BLT S1 Heavy Equipment Operator (1 ea) - 1 ea.	3.00 HR 11788	31.56 95	0.00 0	0.00 0	0.00 0	31.56 95	31.56
MIL S1 HYD EXCAV, CRWLR, 2.00 CY BKT (1 ea)	3.00 HR H25CA007	0.00 0	93.25 280	0.00 0	0.00 0	93.25 280	93.25
BLT S1 Heavy Truck Driver (2 ea)	6.00 HR 11792	32.48 195	0.00 0	0.00 0	0.00 0	32.48 195	32.48
MIL S1 Trk,Off-Hwy,R-Dump, 15-19CY, 25T (2 ea)	6.00 HR T55DJ002	0.00 0	54.34 326	0.00 0	0.00 0	54.34 326	54.34
TOTAL Excavate and Stockpile	445.09 LCY	290	606	0	0	895	2.01

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 13

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.91. Frisking Tent Operations (Survey & Decon Trucks and Containers)							
08.01.91.01. Low Activity Containers (Frisk Containers/Trucks)							
<p>Note: Frisking tent operation is assumed to occur only during the excavation of the contaminated material portion of the work scope.</p>							
USR AB Radiation Control Tech. (3 ea)	24.00 HR	48.46 1,163	0.00 0	0.00 0	0.00 0	48.46 1,163	48.46
TOTAL Low Activity Containers	8.00 HRS	----- 1,163	0	0	0	1,163	145.38

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 14

08.01. Contaminated Soil Collection	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
08.01.91.02. Decontaminate Containers (Prepare Containers for Shipment)									
Work to be Performed: Close liner, secure tarp and spray/decon waste containers, if contaminated, prior to transport to disposal facility. Water is recycled for contaminated dust suppression									
Crew and Equipment: Fixed Price Contractor: 3 ea. Laborers Equipment: 1 ea. Pressure washer and 1 ea. 1,000 gal. portable water tank (cost included in construction cost).									
Output: Duration is equal to the duration of the excavation/haul activities in the contaminated zone.									
BLT S1 Laborer (3 ea)	24.00	S1	11786	27.77 666	0.00 0	0.00 0	0.00 0	27.77 666	27.77
MIL S1 Press Washer, 5.4GPM, 3KSI,PORT	8.00	HR	W25HO002	0.00 0	2.50 20	0.00 0	0.00 0	2.50 20	2.50
FPC S1 Small Tools - 3 ea	24.00	HR	XMIIXX020	0.00 0	1.57 38	0.00 0	0.00 0	1.57 38	1.57
TOTAL Decontaminate Containers	8.00	HR		666	58	0	0	724	90.52
TOTAL Frisking Tent Operations				1,830	58	0	0	1,887	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 15

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.92. Queue Area Operations							
Note: Includes installation of liners into containers and misc. activities necessary in queue area for the duration of the contaminated material excavation. Each container receives a liner. The quantity of container liners is based on the number of containers to be moved calculated at 12.87 LCY per container. Duration is the timeframe when contaminated soil and demolition waste are being excavated and hauled.							
BLT AB Laborers (2 ea)	16.00 HR 11786	27.77 444	0.00 0	0.00 0	0.00 0	27.77 444	27.77
HAM AB Radiation Control Tech. (.5 ea)	4.00 HR 10T17	51.61 206	0.00 0	0.00 0	0.00 0	51.61 206	51.61
USR AB Container liners	3.00 EA	0.00 0	0.00 0	24.31 73	0.00 0	24.31 73	24.31
TOTAL Queue Area Operations	8.00 HRS	651	0	73	0	724	90.46

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 16

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.93. Radiation Control Tech. Support							
Notes:							
Crew and Equipment:							
Rad Control Techs. - 1.5 ea.							
Duration:							
Total Excavation Duration							
HAM AB Radiation Control Tech. (1.5 ea)	12.00 HR 10T17	51.61 619	0.00 0	0.00 0	0.00 0	51.61 619	51.61
TOTAL Radiation Control Tech. Support	8.00 HRS	619	0	0	0	619	77.41

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 17

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.94. Site Lighting Assumption is that no site lighting will be necessary since all work is assumed to be during daylight hours.							
TOTAL Site Lighting		0	0	0	0	0	0

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 18

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.95. PPE (Personal Prot. Clothing)							
08.01.95.01. PPE (Subcontractor Supplied)							
Note: Disposable PPE @ \$9.50/set (excluding sales tax), 2 changes per day for 4 ERC personnel and 4 subcontractor personnel for the duration of contaminated material excavation.							
USR AB ERC PPE (Subcontractor Supplied)	8.00	0.00 0	0.00 0	10.26 82	0.00 0	10.26 82	10.26 10.26
USR AB S/C PPE (Subcontractor Supplied)	8.00	0.00 0	0.00 0	10.26 82	0.00 0	10.26 82	10.26 10.26
TOTAL PPE (Subcontractor Supplied)		0	0	164	0	164	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
08. Solids Collection & Containment

TIME 13:02:27
DETAIL PAGE 19

08.01. Contaminated Soil Collection	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
08.01.95.02. Laundry Services (No Cost item)							
Note:							
This item has been deactivated. It remains in the model for possible future use. Rates should be reviewed and updated.							
TOTAL Laundry Services		0	0	0	0	0	0
TOTAL PPE (Personal Prot. Clothing)		0	0	164	0	164	
TOTAL Contaminated Soil Collection		4,266	1,836	256	0	6,358	
TOTAL Solids Collection & Containment		4,266	1,836	256	0	6,358	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
10. Drums/Tanks/Structures/Misc.

TIME 13:02:27
DETAIL PAGE 20

10.03. Structure Removal	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST

10. Drums/Tanks/Structures/Misc. (Demolition and Removal)							
10.03. Structure Removal							
10.03.02. Demolition (Demolish concrete Structures)							
Note: Production rate is 5 LCY/Hr							
BLT AB Laborers (1 ea)	1.00 HR 11786	27.77 28	0.00 0	0.00 0	0.00 0	27.77 28	27.77
BLT AB Operating Engineers (1 ea)	1.00 HR 11788	31.56 32	0.00 0	0.00 0	0.00 0	31.56 32	31.56
MIL AB CONC PULVERIZER, 42"THICK, 30"W (ADD 3.00 CY HYD EXCAVATOR)	1.00 HR H25LU049	0.00 0	13.07 13	0.00 0	0.00 0	13.07 13	13.07
MIL AB HYD EXCAV, CRWLR, 2.88 CY BKT	1.00 HR H25CA028	0.00 0	98.28 98	0.00 0	0.00 0	98.28 98	98.28
UPB AB Small Tools (1 ea)	1.00 HR XMIXX020	0.00 0	1.57 2	0.00 0	0.00 0	1.57 2	1.57
TOTAL Demolition	5.00 LCY	59	113	0	0	172	34.45
TOTAL Structure Removal		59	113	0	0	172	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
10. Drums/Tanks/Structures/Misc.

TIME 13:02:27
DETAIL PAGE 21

10.06. Radioactive Specific Waste	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
10.06. Radioactive Specific Waste									
Containment (Furnish/Fill)									
10.06.01. LSA (Low Specific Activity)									
Shipping Containers (Loading Demolition Waste)									
Notes:									
1. Production Rate is 70 LCY/Hr									
2. This activity includes only the loading of the demolition waste prior									
to hauling it to the Queue area. The haulage from the hole to the									
Queue area is covered in 08.01.03 (Hauling to Queue Area).									
BLT AB Operating Engineers (1 ea)				31.56	0.00	0.00	0.00	31.56	
	0.07	HR	11788	2	0	0	0	2	31.56
MIL AB HYD EXCAV, CRWLR, 2.88 CY BKT				0.00	98.28	0.00	0.00	98.28	
(1 ea)	0.07	HR	H25CA028	0	7	0	0	7	98.28
TOTAL LSA (Low Specific Activity)	5.00	LCY		2	7	0	0	9	1.85
TOTAL Radioactive Specific Waste				2	7	0	0	9	
TOTAL Drums/Tanks/Structures/Misc.				62	120	0	0	182	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20. Site Restoration

TIME 13:02:27
DETAIL PAGE 22

20.01. Earthwork	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>							
20. Site Restoration							
20.01. Earthwork							
20.01.03. Load/Haul Borrow (Backfill)							
Assumptions:							
1. Assume borrow available on-site. No charge for material.							
2. 10% added to account for compaction.							
3. Hauling speed is 30 mph. Return speed is 40 mph.							
4. Truck capacity is 15 loose cu yd, based on the following:							
- Average soil density at Hanford = 1.73ton/BCY							
- Weight limit on Hanford roads = 80,000 lbs							
- Weight of dump truck = 30,000 lbs							
5. Truck dump time is 1.5 minutes.							
6. Dust control is not covered here because it is covered in the placement item. One water truck will cover both.							
Output:							
1. 219 LCY per crew hour (this is an 8 hr/day rate working 6.5 hr/shift)							
This rate is driven by the capacity of a 4.5 LCY loader.							
BLT AB Heavy Equipment Operator		31.56	0.00	0.00	0.00	31.56	
- 1 ea	2.00 HR 11788	63	0	0	0	63	31.56
UPB AB Ldr,FE, WH, 4.50 CY, Artic, 966E		0.00	59.64	0.00	0.00	59.64	
(1 ea)	2.00 HR L40CA006	0	119	0	0	119	59.64
BLT AB Heavy Truck Driver		32.48	0.00	0.00	0.00	32.48	
Quantity calculated by parameter worksheet.	39.00 HR 11792	1,267	0	0	0	1,267	32.48
MIL AB Trk,Off-Hwy,R-Dump, 15-19CY, 25T		0.00	54.34	0.00	0.00	54.34	
(number of trucks is determined by the NUMTRK Parameter)	39.00 HR T55DJ002	0	2,119	0	0	2,119	54.34
TOTAL Load/Haul Borrow (Backfill)	452.00 LCY	1,330	2,239	0	0	3,569	7.89

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20. Site Restoration

TIME 13:02:27
DETAIL PAGE 23

20.01. Earthwork	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST

20.01.06. Spreading (Spread/Comp. Borrow)							
Activity:							
Spreading and compacting the stockpiled Non-Contaminated Soil and borrow.							
Output:							
219 LCY per crew hour.							
BLT AB Heavy Truck Driver (1 ea) - 1 ea	2.00 HR 11792	32.48 65	0.00 0	0.00 0	0.00 0	32.48 65	32.48
FPC AB Trk,Wtr,Off-Hwy, 6000GAL,Cat621E 6000 GALLON WITH CAT 621E TRAC - 1 ea	2.00 HR T60KI002	0.00 0	67.85 136	0.00 0	0.00 0	67.85 136	67.85
BLT AB Heavy Equipment Operator (1 ea) - 1 ea	2.00 HR 11788	31.56 63	0.00 0	0.00 0	0.00 0	31.56 63	31.56
GEN AB DOZER, CRWLR, 251-300 HP (187-224 KW), PS (W/ U BLADE) (1 ea)	2.00 HR T15Z6560	0.00 0	86.82 174	0.00 0	0.00 0	86.82 174	86.82
TOTAL Spreading (Spread/Comp. Borrow)	452.00 LCY	128	309	0	0	437	0.97
TOTAL Earthwork		1,458	2,548	0	0	4,006	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20. Site Restoration

TIME 13:02:27
DETAIL PAGE 24

20.04. Revegetation and Planting	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
20.04. Revegetation and Planting									
20.04.01. Mech. Seeding with Fertilizer and Mulch									
Notes:									
1. Seeding is assumed to occur during Sept.-Nov. timeframe.									
2. Seed/Mulch/Fertilizer cost is \$330/acre (excluding sales tax).									
Output:									
1. Production Rate = 1 Acre/crew hour									
M USR AB Seed, Fertilizer and Mulch				0.00	0.00	356.40	0.00	356.40	
	0.13	ACR		0	0	46	0	46	
<hr/>									
TOTAL Mech. Seeding with Fertilizer				0	0	46	0	46	356.40
	0.13	HRS							

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20. Site Restoration

TIME 13:02:27
DETAIL PAGE 25

20.04. Revegetation and Planting	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST

20.04.04. Shrubs/Trees/Groundcover							
Note: Tubling planning of sage brush seedlings @ \$0.80/each. 1. Planting density is 400/acre 2. Planting is assumed to occur during Sept-Nov. timeframe 3. Productivity = 60 seedlings/crewmember/hour 4. Output = 1 acre per crew hour 5. Tubling cost = \$320/acre (excluding sales tax)							
BLT AB Laborers (6 ea)	1.00 HR 11786	27.77 28	0.00 0	0.00 0	0.00 0	27.77 28	27.77
UPB AB Small tools (6 ea)	1.00 HR XMIXX020	0.00 0	1.57 2	0.00 0	0.00 0	1.57 2	1.57
USR AB Tubling Cost	0.13 ACR	0.00 0	0.00 0	345.60 44	0.00 0	345.60 44	345.60
TOTAL Shrubs/Trees/Groundcover	0.13 ACR	----- 28	2	44	0	74	573.75

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
20. Site Restoration

TIME 13:02:27
DETAIL PAGE 26

20.04. Revegetation and Planting	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
20.04.91. Irrigation									
Work to be Performed:									
Irrigate site 4 times in late spring/early summer (over a 2 month period). Apply 1.0 inch of water/acre/irrigation event (27,154 gallons). Assume site is remote. Includes a 10,000 gal. holding tank with gas powered pump @ \$300/month for 2 months. Also includes 2" distribution lines with sprinkler heads @ \$2,000/acre.									
Output:									
45 hour/acre (.022 acre/hr) for hauling water to a holding tank (remote).									
BLT AB Truck Driver - 1 ea	6.00	HR	11792	32.48 195	0.00 0	0.00 0	0.00 0	32.48 195	32.48
MIL AB Trk,Hwy, 43,000 GVW, 6X4, 3 Axle (1 ea)	6.00	HR	T50FO013	0.00 0	22.50 135	0.00 0	0.00 0	22.50 135	22.50
MIL AB Trlr,Water Tanker,4000Gal (1 ea) (ADD TOWING TRUCK)	6.00	HR	T45XX029	0.00 0	9.61 58	0.00 0	0.00 0	9.61 58	9.61
USR AB 10,000 gal holding tank w/gas powered pump (1 ea)	2.00	MO		0.00 0	300.00 600	0.00 0	0.00 0	300.00 600	300.00
USR AB 2" Dist. lines w/ Sprinkler Hds.	0.13	ACR		0.00 0	0.00 0	0.00 0	2000.00 257	2000.00 257	2000.00
TOTAL Irrigation	0.13	ACR		195	793	0	257	1,245	9679.32
TOTAL Revegetation and Planting				223	794	90	257	1,364	
TOTAL Site Restoration				1,681	3,342	90	257	5,370	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 27

21.01. Removal of Temporary Facilities	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21. Demobilization									
Note:									
Because multiple sites will be cleaned up within an operable unit and a cost for mobilization between sites is already included, no allowance for demobilization is made. Only the the following costs for removal of are included here:									
1. Removal of fencing 2. Removal of decontamination area 3. Removal of Temporary Utilities 4. Scarify new roads 5. Misc. Cleanup allowance 6. Post construction submittals 7. Final Topo									
21.01. Removal of Temporary Facilities									
21.01. 5. Remove Decontamination Area									
Note:									
The duration of this activity is assumed to be 2/3 of the Decontamination Area erection time. Erection time was 24 hrs. Therefore removal time is 24 x .67 = 16 hrs.									
BLT AB Laborers (3 ea)				27.77 48.00 HR 11786	0.00 1,333	0.00 0	0.00 0	27.77 1,333	27.77
UPB AB Small Tools (3 ea)				0.00 48.00 HR XMIXX020	1.57 75	0.00 0	0.00 0	1.57 75	1.57
MIL AB HYD EXCAV,TRK MTD,0.500CY,TB,6X4				0.00 16.00 HR H30GA002	53.57 857	0.00 0	0.00 0	53.57 857	53.57
BLT AB Operating Engineers (1 ea)				31.56 16.00 HR 11788	0.00 505	0.00 0	0.00 0	31.56 505	31.56
MIL AB Trk,Off-Hwy,R-Dump, 15-19CY, 25T (1 ea)				0.00 16.00 HR T55DJ002	54.34 869	0.00 0	0.00 0	54.34 869	54.34
BLT AB Truck Driver (1 ea)				32.48 16.00 HR 11792	0.00 520	0.00 0	0.00 0	32.48 520	32.48
TOTAL Remove Decontamination Area				2,358	1,802	0	0	4,160	259.97

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 28

21.01. Removal of Temporary Facilities	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21.01.11. Barricades (Remove Temp. Fence)									
Notes:									
1. It was assumed that the fence could be removed twice as fast installing it. Installation rate was 100 LF/Hr, therefore the dismantling rate is 200 LF/Hr.									
2. It was assumed that the removal crew is 2 laborers. Installation and removal require a flatbed truck with a driver (teamster)									
BLT AB Laborers (2 ea)	3.00	HR	11786	27.77 83	0.00 0	0.00 0	0.00 0	27.77 83	27.77
UPB AB Small Tools (2 ea)	3.00	HR	XMIXX020	0.00 0	1.57 5	0.00 0	0.00 0	1.57 5	1.57
BLT AB Truck Drivers (1 ea)	2.00	HR	11792	32.48 65	0.00 0	0.00 0	0.00 0	32.48 65	32.48
MIL AB Trk,Hwy,10,000GVW,4X2, 1T-Pickup (1 ea)	2.00	HR	T50FO005	0.00 0	8.60 17	0.00 0	0.00 0	8.60 17	8.60
MIL AB Flatbed, 8'x 12.0' (1 ea) (ADD TRUCK)	2.00	HR	T40XX014	0.00 0	0.61 1	0.00 0	0.00 0	0.61 1	0.61
TOTAL Barricades (Remove Temp. Fence)	300.00	LF		148	23	0	0	171	0.57

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 29

21.01. Removal of Temporary Facilities	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21.01.25. Roads & Parking (Scarify Roads)									
Notes: Includes a 12G grader with a 5 shank ripper/scarifier. Assumed two passes on road. Total job assumed to be 30 minutes.									
BLT AB Operating Engineers (1 ea)	0.50	HR	11788	31.56 16	0.00 0	0.00 0	0.00 0	31.56 16	31.56
UPB AB Grader,Motor, Artic, Cat 12-G (1 ea)	0.50	HR	G15CA003	0.00 0	34.49 17	0.00 0	0.00 0	34.49 17	34.49
USR AB 5 Shank Ripper/Scarifyer (1 ea) for 12G Grader (Blue Book)	0.50	HR	YA6	0.00 0	1.18 1	0.00 0	0.00 0	1.18 1	1.18
TOTAL Roads & Parking (Scarify Roads)	0.50	HRS		16	18	0	0	34	67.23

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 30

21.01. Removal of Temporary Facilities	QUANTY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21.01.91. Misc. Cleanup Allowance									
Notes:									
Activity includes 2 laborers and a flatbed truck with driver for 8 hours to perform misc. cleanup activities around the site.									
BLT AB Laborers (2 ea)	16.00	HR	11786	27.77 444	0.00 0	0.00 0	0.00 0	27.77 444	27.77
UPB AB Small Tools (2 ea)	16.00	HR	XMIXX020	0.00 0	1.57 25	0.00 0	0.00 0	1.57 25	1.57
BLT AB Truck Drivers (1 ea)	8.00	HR	11792	32.48 260	0.00 0	0.00 0	0.00 0	32.48 260	32.48
MIL AB Trk,Hwy,10,000GVW,4X2, 1T-Pickup (1 ea)	8.00	HR	T50FO005	0.00 0	8.60 69	0.00 0	0.00 0	8.60 69	8.60
MIL AB Flatbed, 8'x 12.0' (1 ea) (ADD TRUCK)	8.00	HR	T40XX014	0.00 0	0.61 5	0.00 0	0.00 0	0.61 5	0.61
TOTAL Misc. Cleanup Allowance	8.00	HRS		704	99	0	0	803	100.37
TOTAL Removal of Temporary Facilities				3,226	1,942	0	0	5,167	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 31

21.06. Submittals	QUANTITY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21.06. Submittals									
21.06.05. Post Construction Submittals									
Note:									
This is an allowance of \$5,000.									
TOTAL Post Construction Submittals				0	0	0	5,000	5,000	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
21. Demobilization

TIME 13:02:27
DETAIL PAGE 32

21.06. Submittals	QUANTITY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
21.06.06. As Built Drawings (Final Topo)									
Note: This is an allowance of \$1,600.									
TOTAL As Built Drawings (Final Topo)				0	0	0	1,600	1,600	
TOTAL Submittals				0	0	0	6,600	6,600	
TOTAL Demobilization				3,226	1,942	0	6,600	11,767	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
70. Project/Construction Mgmt & Supt

TIME 13:02:27
DETAIL PAGE 33

	QUANTITY	UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
70. Project/Construction Mgmt & Supt									
ERC AB ERC Cost/Scheduling Engineer	38.00	HR	21000	56.04 2,130	0.00 0	0.00 0	0.00 0	56.04 2,130	56.04
ERC AB ERC Design Engineer	24.00	HR	32000	65.03 1,561	0.00 0	0.00 0	0.00 0	65.03 1,561	65.03
ERC AB ERC Project Engineer	32.00	HR	32000	65.03 2,081	0.00 0	0.00 0	0.00 0	65.03 2,081	65.03
ERC AB ERC Procurement	23.00	HR	41000	47.74 1,098	0.00 0	0.00 0	0.00 0	47.74 1,098	47.74
ERC AB ERC Project Management	47.00	HR	51000	74.98 3,524	0.00 0	0.00 0	0.00 0	74.98 3,524	74.98
ERC AB ERC Quality Assurance	8.00	HR	52000	63.43 507	0.00 0	0.00 0	0.00 0	63.43 507	63.43
ERC AB ERC Field Support	119.00	HR	53000	50.32 5,988	0.00 0	0.00 0	0.00 0	50.32 5,988	50.32
ERC AB ERC Administrative Services	20.00	HR	55000	28.39 568	0.00 0	0.00 0	0.00 0	28.39 568	28.39
ERC AB ERC Rad Con Engineer	6.00	HR	35000	63.43 381	0.00 0	0.00 0	0.00 0	63.43 381	63.43
ERC AB ERC Safety Engineer	20.00	HR	58000	56.44 1,129	0.00 0	0.00 0	0.00 0	56.44 1,129	56.44
TOTAL Project/Construction Mgmt & Supt				18,966	0	0	0	18,966	

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
XXX. Estimate Quantities

TIME 13:02:27
DETAIL PAGE 34

XXX.XX. Input Quantities			QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
<hr/>									
XXX. Estimate Quantities									
XXX.XX. Input Quantities									
USR	Demolition Waste		91.00 BCF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Non-Contaminated Soil		10450 BCF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Contaminated Soil		550.00 BCF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Top Excavation Length		20.00 LF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Top Excavation Width		10.00 LF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Bottom Area		200.00 SF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Hauling Distance for Borrow		15.00 MI	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Depth of Excavation		10.00 LF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
TOTAL Input Quantities				0	0	0	0	0	0

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
XXX. Estimate Quantities

TIME 13:02:27

XXX.YY. Additional Quantities			QUANTITY UOM	CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
XXX.YY. Additional Quantities										
USR	Non-Contaminated Soil - Reduced		445.09	LCY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Contaminated Soil		23.00	LCY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Site Area		5600.00	SF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Volume of Transition Zone Soil		30388	LCY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Total Project Duration		14.00	DAY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Total Excavation Duration		1.00	DAY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Days to Irrigate Site (1 Crew)		0.92	DAY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Low Level Waste (LLW) Volume		28.00	LCY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Duration of In-Situ Monitoring		3.00	HR	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	QC Sample Quantity and Analysis		3.00	EA	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Non-Contaminated Sample Quantity		6.00	LF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Site Perimeter		300.00	LF	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Spread/Compact Soil Quantity		132142	LCY	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Total On-Site Samples		6.00	EA	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
USR	Total Off-Site Samples		3.00	EA	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0
TOTAL Additional Quantities					0	0	0	0	0	0

Fri 23 Feb 2001
Eff. Date 03/30/98
DETAILED ESTIMATE

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
XXX. Estimate Quantities

TIME 13:02:27
DETAIL PAGE 36

XXX.YY. Additional Quantities	QUANTITY UOM CREW ID	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
TOTAL Estimate Quantities		0	0	0	0	0	
TOTAL HANFORD: ER PROGRAM		31,875	8,889	4,694	21,073	66,531	

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
** PROJECT DIRECT SUMMARY - FEATURE **

TIME 13:02:27
SUMMARY PAGE 1

	QUANTITY UOM	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST	UNIT COST
01 Mobilization & Prep Work	3,021	1,649	4,347	1,616	10,633		
02 Monitoring, Sampling, & Analysis	654	0	0	12,600	13,254		
08 Solids Collection & Containment	4,266	1,836	256	0	6,358		
10 Drums/Tanks/Structures/Misc.	62	120	0	0	182		
20 Site Restoration	1,681	3,342	90	257	5,370		
21 Demobilization	3,226	1,942	0	6,600	11,767		
70 Project/Construction Mgmt & Supt	18,966	0	0	0	18,966		
TOTAL HANFORD: ER PROGRAM	31,875	8,889	4,694	21,073	66,531		
FIELD OH					1,257		
SUBTOTAL HOME OFC					67,788		
SUBTOTAL PROFIT					377		
SUBTOTAL BOND					68,165		
SUBTOTAL B&O TAX					880		
TOTAL INCL INDIRECTS DIR DIST					69,045		
SUBTOTAL G & A					377		
SUBTOTAL CONTINGN					69,422		
TOTAL INCL OWNER COSTS					73		
					69,495		
					13,148		
					82,643		
					3,339		
					85,982		
					13,499		
					99,481		

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
** CONTRACTOR DIRECT SUMMARY **

TIME 13:02:27
SUMMARY PAGE 2

	QUANTITY UOM	LABOR	EQUIPMNT	MAT/SUPP	UNIT CST	TOTAL COST
AB No Markup Items	27,800	6,373	327	19,457		53,958
S1 Prime Contractor	4,074	2,516	4,366	1,616		12,573

Fri 23 Feb 2001
Eff. Date 03/30/98

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2
** CONTRACTOR INDIRECT SUMMARY **

TIME 13:02:27
SUMMARY PAGE 3

	TOTAL DIRECT	FIELD OH	HOME OFC	PROFIT	BOND	B&O TAX	TOTAL COST	UNIT COST
AB No Markup Items	53,958	0	0	0	0	0	53,958	
S1 Prime Contractor	12,573	1,257	377	880	377	73	15,537	

Fri 23 Feb 2001
Eff. Date 03/30/98
ERROR REPORT

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2

TIME 13:02:27
ERROR PAGE 1

R2029: No Crew Database - No Crew Summaries or Reprice
R2032: 020805 In Situ Moni Detail item has zero quantity - no costs reported
R2032: 020892 ERC Sampler Detail item has zero quantity - no costs reported
R2032: 020892 RADIATION CO Detail item has zero quantity - no costs reported
R2032: 020892 Materials/Su Detail item has zero quantity - no costs reported
R2032: 021005 Analyze LLW Detail item has zero quantity - no costs reported
R2032: 021005 Analyze Site Detail item has zero quantity - no costs reported
R2032: 021005 Groundwater Detail item has zero quantity - no costs reported
R2032: 08010201 Heavy Equipm Detail item has zero quantity - no costs reported
R2032: 08010201 HYD EXCAV, C Detail item has zero quantity - no costs reported
R2032: 08010202 Heavy Truck Detail item has zero quantity - no costs reported
R2032: 08010202 Trl,Wtr,Off- Detail item has zero quantity - no costs reported
R2032: 08019102 Water Dispos Detail item has zero quantity - no costs reported
R2032: 200401 Operating En Detail item has zero quantity - no costs reported
R2032: 200401 4 Wheel Driv Detail item has zero quantity - no costs reported
R2032: 200401 Mulch Spread Detail item has zero quantity - no costs reported
R2032: 200401 Tiller (1 e Detail item has zero quantity - no costs reported
R2032: 200401 Primary Seed Detail item has zero quantity - no costs reported
R2032: 200404 Grade 23 Sup Detail item has zero quantity - no costs reported
R2032: 200404 Trk,Hwy, 8,8 Detail item has zero quantity - no costs reported
R2032: 70 ERC Environm Detail item has zero quantity - no costs reported
R2032: XXXXX Groundwater Detail item has zero quantity - no costs reported
R2032: XXXYY Regular LLW Detail item has zero quantity - no costs reported
R2032: XXXYY Bottom Area Detail item has zero quantity - no costs reported

* * * END OF ERROR REPORT * * *

SUMMARY REPORTS	SUMMARY PAGE
PROJECT DIRECT SUMMARY - FEATURE.....	1
CONTRACTOR DIRECT SUMMARY.....	2
CONTRACTOR INDIRECT SUMMARY.....	3
DETAILED ESTIMATE	DETAIL PAGE
01. Mobilization & Prep Work	
01. Mobilize Equipment & Facilities.....	1
04. Setup/Construct Temp Facilities	
05. Decon Fac. for Const. Equip/Veh.....	1
11. Barricades (Install Temp. Fence).....	2
91. Waste Site Survey.....	3
06. Temp Relocatns/Roads/Struct/Util	
01. Roads (Site Road Maintenance).....	4
02. Monitoring, Sampling, & Analysis	
08. Sampling Rad Contaminated Media	
05. Sub-Surface Soil (Field Screen-.....	5
91. Excav. GW Prot. Sample Trenches.....	6
92. Site Certificaton Sampling.....	6
10. Radioactive Waste Analysis	
05. Rad. Anal. Veg./Sediment/Soil.....	7
08. Solids Collection & Containment	
01. Contaminated Soil Collection	
02. Excavation (Contaminated Soil)	
01. Excavate/Load Contaminated Soil.....	8
02. Provide Dust Suppression.....	9
03. Hauling (To Queue Area).....	10
04. Stockpiling (Exc. Overburden)	
01. Excavate and Stockpile.....	11
02. Provide Dust Suppression.....	12
91. Frisking Tent Operations	
01. Low Activity Containers.....	13
02. Decontaminate Containers.....	14
92. Queue Area Operations.....	15
93. Radiation Control Tech. Support.....	16
94. Site Lighting.....	17
95. PPE (Personal Prot. Clothing)	
01. PPE (Subcontractor Supplied).....	18
02. Laundry Services.....	19
10. Drums/Tanks/Structures/Misc.	
03. Structure Removal	
02. Demolition.....	20
06. Radioactive Specific Waste	
01. LSA (Low Specific Activity).....	21
20. Site Restoration	
01. Earthwork	
03. Load/Haul Borrow (Backfill).....	22
06. Spreading (Spread/Comp. Borrow).....	23
04. Revegetation and Planting	
01. Mech. Seeding with Fertilizer.....	24

Fri 23 Feb 2001
Eff. Date 03/30/98
TABLE OF CONTENTS

U.S. Army Corps of Engineers
PROJECT 1904NB: HANFORD: ER PROGRAM - REMEDIATION - IRM IMPLEMENTATION
Retention Basin Model - 3/30/98 - Rev. 2

TIME 13:02:27
CONTENTS PAGE 2

DETAILED ESTIMATE	DETAIL PAGE
04. Shrubs/Trees/Groundcover.....	25
91. Irrigation.....	26
21. Demobilization	
01. Removal of Temporary Facilities	
5. Remove Decontamination Area.....	27
11. Barricades (Remove Temp. Fence).....	28
25. Roads & Parking (Scarify Roads).....	29
91. Misc. Cleanup Allowance.....	30
06. Submittals	
05. Post Construction Submittals.....	31
06. As Built Drawings (Final Topo).....	32
70. Project/Construction Mgmt & Supt.....	33
XXX. Estimate Quantities	
XX. Input Quantities.....	34
YY. Additional Quantities.....	35

No Backup Reports...

* * * END TABLE OF CONTENTS * * *